

VASIL'YEV, A.M., red.; KUZNETSOV, V.I., red.; PETRUNICHEV, V.N.,
red.

[Computer and information techniques] Vychislitel'naia i
informatsionnaia tekhnika; sbornik materialov. Moskva,
Vses. in-t nauchnoi i tekhn. informatsii AN SSSR, 1962.
220 p. (MIRA 17:7)

1. Konferentsiya po obrabotke informatsii, mashinnomu pe-
revodu i avtomaticheskому chteniyu teksta. Moskva, 1961.

quadric Q_1 in a P_4 . To a linear complex of P_2 there corresponds a hyperplane of P_4 which intersects Q_1 in a P_3 , the axis of the complex. The z lines can similarly be considered

YASIL'YEV, A. N.

USSR/Mathematics - Differential Geometry 1 Jul 51

"General Invariantive Methods in Differential Geometry," A. M. Vasil'yev, Sci Res Inst of Math and Mech, Moscow State U imeni M. V. Lomonosov

"Dok Ak Nauk SSSR" Vol LXXX, No 1, pp 5-7

States that there is still no invariantive algebraic scheme of differential-geometric investigation, although much attention is now being paid to the study of the properties of the objects discussed in differential geometry. G. F. Laptev recently showed that the strict algebraic scheme given by him of the continuations and ranges of

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(Contd)

the representations of finite Lie groups effects a complete description of the differential geometry of a manifold imbedded in a homogeneous space with finite fundamental group or in a space with corresponding connection ("Dok Ak Nauk SSSR" Vol LXXVII, No 2, 1951). Discusses the general problem as a generalization of Laptev's constructions in a space of representations of infinite Lie groups. Submitted by Acad I. G. Petrovskiy
28 Apr 51.

210747

VASILYEV, A. M.

VASILYEV, A. M. -- "Invariant Analytic Methods in Differential Geometry." Sub 17 Jun 52, Sci Res Inst of Mechanics and Mathematics, Moscow Order of Lenin State U imeni M. V. Lomonosov. (Dissertation for the Degree of Candidate in Physicomathematical Sciences).

SO: Vechernaya Moskva January-December 1952

"APPROVED FOR RELEASE: 08/31/2001

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CIA-RDP86-00513R001858820007-2

VASIL'YEV A M.

W⁴ (Russian) of date of life congruence

APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001858820007-2"

ABRAMOV, A.A., redaktor; BOLTYANSKIY, V.G., redaktor; VASIL'YEV, A.M., redaktor; MEDVEDEV, B.V., redaktor; MYSHKIS, A.D., redaktor; NIKOL'SKIY, S.M., otvetstvennyy redaktor; POSTNIKOV, A.G., redaktor; PROKHOROV, Yu.V., redaktor; RYBNIKOV, K.A., redaktor; UL'YANOV, P.L., redaktor; USPENSKIY, V.A., redaktor; CHETAYEV, N.G., redaktor; SHILOV, G.Ye., redaktor; SHIRSHOV, A.I., redaktor; SIMKINA, Ye.N., tekhnicheskikh redaktor

[Proceedings of the third All-Union mathematical congress] Trudy tret'ego vsesoyuznogo matematicheskogo s"ezda. Moskva, Izd-vo Akademii nauk SSSR. Vol.1. [Reports of the sections] Sektsionnye doklady. 1956. 236 p. (MLR 9:7)

1. Vsesoyuznyy matematicheskiy s"ezd. 3rd Moscow, 1956.
(Mathematics)

ABRAMOV, A.A., redaktor; BOLTYANSKIY, V.G., redaktor; VASIL'YEV, A.M.,
redaktor; MEDVEDEV, B.V., redaktor; MYSHKIS, A.D., redaktor;
NIKOL'SKIY, S.M., otvetstvennyy redaktor; POSTNIKOV, A.G., redaktor;
PROKHOROV, Yu.7., redaktor; RYBNIKOV, K.A., redaktor; UL'YANOV, P.L..
redaktor; USPENSKIY, V.A., redaktor; CHETAYEV, N.G., redaktor;
SHILOV, G.Ye., redaktor; SHIRSHOV, A.I., redaktor; SIMKINA, Ye.N.,
tekhnicheskiy redaktor

[Proceedings of the all-Union Mathematical Congress] Trudy tret'ego
vsesoyuznogo Matematicheskogo s"ezda; Moskva iyun'-iul' 1956.
Moskva, Izd-vo Akademii nauk SSSR. Vol.2. [Brief summaries of
reports] Kratkoe soderzhanie obzornykh i sektsionnykh dokladov.
1956. 166 p. (MLRA 9:9)

1. Vsesoyuznyy matematicheskiy s"ezd. 3, Moscow, 1956.
(Mathematics)

VASIL'YEV, A.M.

NIKOL'SKIY, S.M., etv.red.; ABRAMOV, A.A., red.; BOLTYANSKIY, V.G., red.;
VASIL'YEV, A.M., red.; MEDVEDEV, B.V., red.; MYSKIS, A.D., red.;
POSTNIKOV, A.G., red.; PROKHOROV, Yu.V., red.; RYBNIKOV, K.A.,
red.; UL'YANOV, P.L., red.; USPENSKIY, V.A., red.; CHETAYEV, N.G.,
red.; SHILOV, G.Ye., red.; SHIRSHOV, A.I., red.; GUSEVA, I.N.,
tekhn.red.

[Proceedings of the Third All-Union Mathematical Congress] Trudy
tret'ego Vsesoyuznogo matematicheskogo s'ezda. Vol.3 [Synoptic
papers] Obzornye doklady. Moskva, Izd-vo Akad.nauk SSSR, 1958. 596 p.
(MIRA 12:2)

1. Vsesoyuznyy matematicheskiy s'ezd. 3d, Moscow, 1956.
(Mathematics--Congresses)

AUTHOR: Vasil'yev, A.M.

SOV/140-58-2-3/20

TITLE: Orthogonal Pairs of Subgroups of the Groups $O(n)$ (Ortogonal'nyye pary podgrupp grupp $O(n)$)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy Ministerstva vysshego obrazovaniya SSSR, Matematika, 1958, Nr 2, pp 17-28 (USSR)

ABSTRACT: Let $O(n)$ be the motion group of the elliptic $(n-1)$ -dimensional space S_{n-1} (i.e. the group of real orthogonal matrices of the n -th order). Subgroups of the type \mathcal{G} are subgroups isomorphic to the direct product $O(m_1) \times O(m_2) \times \dots \times O(m_k)$ ($\sum m_i > n$, $1 \leq k \leq \left[\frac{n}{2} \right]$) and representing motions which 1. let invariant k completely orthogonal (or absolutely polar) planes $\mathcal{G}_1, \dots, \mathcal{G}_k$ with the dimensions $m_1-1, m_2-1, \dots, m_k-1$ and 2. let invariant all points of a plane \mathcal{G}_0 of the dimension $n-1 - \sum m_i$ which is perpendicular to all \mathcal{G}_i .

In a long theorem the author gives necessary and sufficient conditions that two subgroups of the type \mathcal{G} are orthogonal one to another in the sense of the Cartan metric for Lie spaces.

Card 1/2

Orthogonal Pairs of Subgroups of the Groups $O(n)$

SOV/140-58-2-3/20

The proof of the theorem bases on four lemmas and two auxiliary theorems.

There are 5 references, 2 of which are Soviet, and 3 American.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova
(Moscow State University imeni M.V.Lomonosov)

SUBMITTED: October 29, 1957

Card 2/2

AUTHOR: Vasil'yev, A.M. SOV/20-121-1-4/55

TITLE: On Orthogonal Subgroups of Classical Compact Lie Groups (Ob
ortogonal'nykh podgruppakh klassicheskikh kompaktnykh grupp Li)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 121, Nr 1, pp 18-21 (USSR)

ABSTRACT: The author considers certain special subgroups of the simple
compact Lie group (subgroups of the type \mathfrak{g}). With the aid of
linear representations and associative algebras the author obtains
a theorem on the structure of the intersection of two subgroups
of the type \mathfrak{g} . In four long sentences the author gives all
necessary and sufficient conditions that two subgroups of the
type \mathfrak{g} are orthogonal (in the sense of the Cartan metric).
There are 4 references, 3 of which are Soviet, and 1 French.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova
(Moscow State University imeni M.V.Lomonosov)

PRESENTED: February 25, 1958, by P.S.Aleksandrov, Academician

SUBMITTED: February 11, 1958

1. Groups (Mathematics) 2. Algebra

Card 1/1

VASIL'YEV, A.M.

1610) PHASE I BOOK EXPLOITATION

SOV/3177

Mathematika v SSSR za sorok let. 1917-1957 tom 1: Obratnyye start 1
 (Mathematics in the USSR for Forty Years, 1917-1957), Vol. 1.
 Review Articles) Moscow, Pizmatgiz, 1959. 2002 p. 5,500 copies

Eds: A. G. Kurosh (Chief Ed.), V. I. Bitiukov, V. O. Baryanich
 Ye. N. Dynkin, G. Ye. Shilov, and A. P. Yushkevich Ed. (Inside
 book); A. P. Lapot; Tech. Ed.; S. M. Achilasy.

PURPOSE: This book is intended for mathematicians and historians
 of mathematics interested in Soviet contributions to the field.

COVERAGE: This book is Volume I of a major 2-volume work on the
 history of Soviet mathematics. Volume I surveys the chief con-
 tributions made by Soviet mathematicians during the period 1917-
 1957; Volume II will contain a bibliography of major works since
 1957 and biographic sketches of some of the leading mathemati-
 cians. This work follows the tradition set by the earlier
 works: *Matematika v SSSR za pyatidesyat let* (Mathematics in the USSR for 50 Years) and *Matematika v SSSR za tridtsat let*
 (Mathematics in the USSR for 30 Years). The book is divided
 into the major divisions of the field, i.e., algebra, topology,
 theory of probabilities, functional analysis, etc., and con-
 tributions and outstanding problems in each discussed. A list-
 ing of some 1400 Soviet mathematicians is included with refer-
 ences to their contributions in the field.

**BRUNNER, A. A. Mathematical Studies Connected with the
 Use of Computers**

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2. Nonarithmetical use of computers 858
3. Theoretical studies of control systems 861
4. Certain other problems of mathematical cybernetics 874

SURESH, M. R. Programming

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BUKALOV, S. V. Monography

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**Cherernushin, N. P. Descriptive Geometry and its Generali-
 zation**

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**Fundamental theories of geometry and its generali-
 zation**

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Multidimensional descriptive geometry. Positional

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Parametric method of studying images. Positional

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and metric completeness

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Other problems

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VASIL'YEV, A. M. Norden, A. P., and Finikov, S. P.

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Problems of classical differential geometry and

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2. Riemann spaces and spaces of affine connection

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Theory of flows

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Induced connections

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3. Complex spaces

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4. Theory of geometric objects

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VASIL'YEV, A. M. Geometriya "v tseli"

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2. Single valued determination of convex surfaces

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3. Regularity of convex surfaces with regular metric

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under given conditions of Gaussian curvature.

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6. Singularity of surfaces given a function of the

principal curvatures

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**7. Arithmetic invariants. Theorems on local defor-
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8. Unimodular bending

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9. Certain results on synthetic geometry

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BUKALOV, A. A. The History of Mathematics

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3. Mathematics of ancient Greece

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4. Mathematics in the Middle Ages

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5. Works of modern mathematicians

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6. Works on the history of various disciplines and

problems; works of a general nature

980

387

16(1)
AUTHOR:

Vasil'yev, A.M.

SOV/140-59-2-4/30

TITLE:

On a Class of Affine Connections in Homogeneous Spaces (Ob odnoj
klasse affinnykh svyaznostey v odnorodnykh prostranstvakh)PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1959
N^r 2, pp 41-49 (USSR)ABSTRACT: Let G be a group, G^* the linearly adjoined group, \hat{G} the Lie
algebra of G , g - subgroup of G , g^* subgroup of G^* . Let g
contain no non-trivial normal divisor of G . In \hat{G} let exist a
subspace \hat{H} invariant with respect to g^* , where $\hat{H} \hat{g} = \hat{G}$, $\hat{H} \cap \hat{g} = 0$,
where \hat{g} is the subalgebra corresponding to the subgroup g .
Principal theorem: Let the subgroups g_1, g of the Lie group G
have the above mentioned properties, let $g_1 \supset g_2 \supset \dots \supset g_m \supset g$ and
 $\hat{H}_1 \subset \hat{H}_2 \subset \dots \subset \hat{H}_m \subset \hat{H}$. Then in the homogeneous space G/g there
exists an m -parametric family of invariant affine connections
without torsion, the geodesic lines of which are the inverse
images in the mapping P of the one-parametric subgroups and

Card 1/2

On a Class of Affine Connections in Homogeneous
Spaces

SCOV/140-59-2-4/50

their classes of the group $G \times G_1 \times \dots \times G_m$, where every G_i is
isomorphic to the g_i . $P: (G \times G_1 \times \dots \times G_m) \rightarrow G/g$.

This result generalizes a construction of P.K.Rashevskiy
[Ref 1].

There are 3 references, 1 of which is Soviet, 1 American, and
1 French.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova
(Moscow State University imeni M.V.Lomonosov)

SUBMITTED: September 29, 1958

Card 2/2

16(1)
AUTHOR:Vasil'yev, A.M.

SOV/20-128-2-1/5

TITLE:

Complete Geodetic Submanifolds of Homogeneous Spaces

PERIODICAL:

Doklady Akademii nauk, SSSR, 1959, Vol 128, Nr 2, pp 223-226 (USSR)

ABSTRACT: Let the subgroup g of the Lie group G have the properties:
1) it does not contain the non-trivial normal divisor of G ,
2) in the Lie algebra \hat{G} of G there exists a subspace H being invariant with respect to the subgroup g^* of the group G^* adjoint to G , where $H + \hat{g} = \hat{G}$, $H \cap \hat{g} = 0$, where \hat{g} is the subalgebra corresponding to the subgroup g .
Let g be a direct product of several factors. These are divided into q classes with p_i factors, where the factors of one class are isomorphic. Giving the isomorphisms between the factors of a class, one obtains a subgroup g_0 being isomorphic to the direct product of q factors (one representative of each class). In the homogeneous space G/g_0 an affine connection free of torsion is defined by g_0 (see [Ref 1,2]). The subalgebra \hat{g}' of \hat{G} which decomposes into a direct sum of subspaces $(\hat{g}' \cap H)$ and $(\hat{g}' \cap \hat{g}_0)$ defines a transitive submanifold in G/g_0 , which in the sense of the connection, corresponds to H and is completely

Card 1/2

Complete Geodetic Submanifolds of Homogeneous Spaces SOV/20-126-2-1/5

geodesic (compare [Ref 3]). In this case g' and g_0 are denoted to be normal with respect to H . In the present paper in a special case the author gives conditions under which the subgroup g' having the same structure as g_0 , is normal to g_0 . There are 4 Soviet references.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova (Moscow State University imeni M.V.Lomonosov)

PRESENTED: May 22, 1959, by P.S.Aleksandrov, Academician

SUBMITTED: March 15, 1959

Card 2/2

VASIL'YEV, A.M. (Moskva)

One class of orthogonal pairs of subgroups of the group $O(N)$.
Mat. sbor. 52 no. 4:917-946 D '60. (MIRA 14:2)
(Groups, Theory of)

VASIL'YEV, A. M.

Doc Phys-Math Sci - (diss) "Geometry of uniform spaces." Moscow, 1961. 8 pp; (Moscow State Pedagogical Inst imeni V. I. Lenin); 200 copies; price not given; (KL, 10-61 sup, 203)

VASIL'YEV, A.M.

C'-connectivities in homogeneous spaces and their totally geodetic submanifolds. Dokl. AN SSSR 140 no.2:281-283 S '61. (MIR 14:9)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
Predstavлено академиком P.S.Aleksandrovym.
(Groups, Theory of)

VASIL'YEV, A.M. (Moskva)

Families of linear elements enveloped by perfectly geodesic
families. Izv. vys. ucheb. zav.; mat. no.3:28-35 '64.
(MIRA 17:12)

L 03021-67 EWT(d) IJP(c)

ACC NR: AP6027945

SOURCE CODE: UR/0039/66/070/004/0457/0480

AUTHOR: Vasil'yev, A. M. (Moscow)

ORG: none

TITLE: Systems of three differential equations having partial derivatives of the first order with three unknown functions and two independent variables (local theory)

SOURCE: Matematicheskiy sbornik, v. 70, no. 4, 1966, 457-480

TOPIC TAGS: partial differential equation, differential geometry

ABSTRACT: Systems of three first-order partial differential equations in three unknown functions and two independent variables ($S_3^{(1)}$) are studied using Cartan's differential geometry (local theory). Quasilinear systems $S_3^{(1)}$ are studied for the case of noncoincident characteristics, and the necessary and sufficient conditions are indicated for systems to be reducible to linear systems. Questions relating to the invariant laws for quasilinear systems are discussed, and a necessary condition for the absence of invariance in a system is introduced. The concept of a general flow function is introduced, and its role in the theory is presented. As examples, several systems encountered in mechanics are studied. Orig. art. has: 82 formulas.

SUB CODE: 12/ SUBM DATE: 18Dec64/ ORIG REF: 012/ 0TH REF: 007

UDC: 513.73+517.945.7

Card 1/1

BRAUN, M.A.; VASILYEV, A.B.

Vertex part of NND in the low energy region and the binding
energy of the deuteron. Vest. LGU 19 no.22:61-70 '64
(MIRA 1821)

VASIL'YEV, A.N., starshiy nauchnyy sotrudnik

Selecting the method of weft feeding to the automatic linen looms.
Tekst.prom. 22 no.9:38-41 S '62. (MIRA 15:9)

1. TSentral'nyy nauchno-issledovatel'skiy institut promyshlennosti
lubyanykh volokon.
(Looms) (Automatic control)

VASIL'YEV, A.N., starshiy nauchnyy sotrudnik; Prinimal uchastiya;
GANTMAKHER, M.A., mladshiy nauchnyy sotrudnik

Economic efficiency of the use of the newest loom types in the
linen industry. Tekst.prom. 22 no.11:43-46 N '62.

(MIRA 15:11)

1. Tsentral'nyy nauchno-issledovatel'skiy institut lubyanykh
volokon (TSNIIILV) (for Vasil'yev).
(Looms)

VASIL'YEV, A.N. (Moskva)

Relation of the magnitude of time reactions to the appearance
and disappearance of a signal as an index of the strength
of the nervous system. Vop. psichol. 6 no. 6:113-122 N-D
'60.

(Reflexes)

(MIRA 13:12)

MUSIN, A.Ch.; CHABDAROVA, Yu.I.; VASIL'YEV, A.N.

Methods of determining the span of chamber-like workings.

Trudy Inst. gor. dela AN Kazakh. SSR 12:61-72 '63.

(MIRA 17:8)

VASIL'YEV, A.N.

Stress distribution in the roof of a chamber with blocks in
various positions. Trudy Inst. gor. dela AN Kazakh. SSR 12:81-87
'63. (MIRA 17:8)

VASIL'YEV, Anatoliy Nikolayevich; PODYNOGIN, Ivan Yevteyevich; NIKITIN,
Petr Dmitriyevich; MIKHAYLOV, O.A., redaktor; ROZENTSVEYQ, Ya.D.,
redaktor izdatel'stva; ATTOPOVICH, M.I., tekhnicheskiy redaktor

[Work practices of outstanding steel smelters of the Kuznetsk
Metallurgical Combine] Opyt raboty peredovykh masterov-staleplavil'-
shchikov Kuznetskogo metallurgicheskogo kombinata. Moskva, Gos.
nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii,
1956. 111 p. (MLRA 9:11)
(Kuznetsk Basin--Smelting)

VASIL'YEV, A.N.

Analyzing the present status of core drilling in Yakutia. Izv.
vys.ucheb.zav.; geol.i razv. 2 no.8:138-142 Ag '59.
(MIRA 13:4)

1. Moskovskiy geologorazvedochnyy institut im. S.Ordzhonikidze.
(Yakutia--Boring)

VAS IL'YEV, A. N.

Using compressed air for scavenging well bottoms in shot drilling.
Izv. vys. ucheb. zav.; geol. i razv. 3 no.8:112-121 Ag '60.
(MIRA 13:10)

1. Moskovskiy geologorazvedochnyy institut im. S.Ordzhonikidze.
(Boring)

VASIL'YEV, A.N.

Ways of controlling breakdowns in drilling under permafrost conditions.
Razved. i okh. nedr 26 no.4:27-30 Ap '60 (MIRA 15:7)

1. Moskovskiy geologorazvedochnyy institut.
(Yakutia--Boring--Cold weather operations)

VASIL'YEV, A. N.

Cand Tech Sci - (diss) "Features of the technology and organization of core drilling under conditions of permanent frost in Yakutia." Moscow, 1961. 25 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Geological Surveying Inst imeni S. Ordzhonikidze); 160 copies; price not given; (KL, 7-61 sup, 233)

VASIL'YEV, A.N. (Perm'); GRISHAYEV, A.I. (Perm')

More about the new type of drilling unit. Put' i put. khoz.
7 no.5:43 '63. (MIRA 16:7)

(Drilling and boring machinery)

VASIL'YEV, A.N.

Drilling with diamond-impregnated bits in Yakutia. Trudy MGRI
(MIRA 16:10)
39:128-131 '63.

VASIL'YEV, A.N.

Consolidation of tubular bone fractures in the Far North. Vest.
khir. 76 no.11:129-130 '55. (MIRA 9:4)

(RUSSIA, NORTHERN
fractures)

VASILEV 161

USSR/.General Problems of Pathology. Tumors

U-4

Abs Jour : Ref Zhur - Biol., No 5, 1958, 23114

Author : Vasilyev, A.N.

Inst :

Title : Osteosarcoma of the Tibial Epiphysis.

Orig Pub : Ortopediya, travmatol. i protezir., 1956, No 4, 56

Abstract : This is a case of an osteosarcoma of the metaepiphysis of the tibia in a 23-year old patient. Six months after a fracture in the area of the tuberosity of the tibia (the area of insertion of a rod for traction purposes), swelling and pain appeared. The patient was operated on with a diagnosis of osteomyelitis. Purulent-like substance and soft tissue edema were found. The histologic diagnosis was osteosarcoma. Three months later an amputation through the upper third of the thigh was performed; a histologic study confirmed the diagnosis of osteosarcoma.

Card 1/1

VASIL'YEV, A.N. (g. Molotov-obl'st'noy)

Vermiform appendix in the left subcostal region. Vest.khir. 77 no.5:
100 My '56. (MLRA 9:8)
(APPENDICITIS)

VASIL'YEV, A. N.

GUKOVSKAYA, Natal'ya Isidorovna, sovetnik yustitsii; SVESHNIKOV, Vyacheslav Aleksandrovich, podpolkovnik med. sluzhby; VASIL'YEV, A.N., kand. yurid.nauk, otvetstvennyy red.; DAMANINA, Ye.D., red.; KOSAREVA, Ye.N., tekhn.red.

[Medicolegal examination of the corpse in cases of violent death; a manual for investigators] Sudebnomeditsinskaia ekspertiza trupa po delam o nasil'stvennoi smerti; posobie dlia sledovatelei. Moskva, Gos.izd-vo iurid.lit-ry, 1957. 254 p. (MIRA 10:12) (AUTOPSY) (MEDICAL JURISPRUDENCE)

VASIL'YEV, A.N. (Molotov)

Device for holding bone fractures together when using Titova's
plaster cast. Ortop., travm. i protez. 18 no.1:61 Ja-Y '57.
(PLASTER CASTS, SURGICAL) (MIRA 10:6)

VASIL'YEV, A.N. (Moskva)

Interrelation between some indexes of the mobility of the nerve
processes. Vop.psichol. 5 no.6:89-101 N.D. '59.
(MIRA 13:4)
(LEARNING, PSYCHOLOGY OF) (NERVOUS SYSTEM)

VASIL'YEV, A.N.

Peritonitis following operations on the abdominal cavity. Sov.med.
23 no.11:89-93 N '59. (MIRA 13:3)
(PERITONITIS etiology)
(ABDOMEN surgery)

KACHKOV, A.P.; MURAV'YEV, M.V. (Moskva, Lopukhinskiy per., d.6, kv.1);
VASIL'YEV, A.N.

Peacetime wounds of the heart. Grud. khir. l no.5:106-109
(MIRA 15:3)
S-0 '61.

1. Iz kafedry obshchey khirurgii i lechebnogo fakul'teta
(zav. - prof. V.I. Struchkov) I Moskovskogo ordena Lenina
meditsinskogo instituta imeni I.M. Sechenova na baze klinicheskoy
bol'nitsy No.23 imeni "Medsantrud" (glavnyy vrach A.P.
Timofeyeva).

(HEART--WOUNDS AND INJURIES)

USPENSKIY, Yu.N.; VASIL'YEV, A.N.

Modified bloodless method for the determination of venous pressure
in man. Fiziol. zhur. 47 no.1:121-124 Ja '61. (MIRA 14:3)

1. From the Laboratory of Pathophysiology of the higher nervous
activity, Psychiatric Institute of Health Preservation Ministry
of the R.S.F.S.R., Moscow.
(BLOOD PRESSURE)

L 27848-66 EWT(d) IJP(c)
Acc Nbr AP5026602

SOURCE CODE: UR/0056/65/049/004/1103/1108

B

AUTHOR: Vasil'yev, A. N.ORG: Leningrad State University (Leningradskiy gosudarstvennyy universitet)

TITLE: On the uniqueness of the Wightman functional

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 4, 1965,
1103-1108

TOPIC TAGS: functional equation, quantum field theory

ABSTRACT: It is shown that an irreducible Wightman functional (defined by a sequence of functions $W_0; W_1(x_1); \dots; W_k(x_1 \dots x_k); \dots$, satisfying the usual requirements and the requirement of the existence of a minimal mass, is uniquely determined by its Ω , i.e., by the set of all

$$g = (g_0; g_1(x_1); \dots; g_n(x_1 \dots x_n); 0; 0; \dots)$$

(the $g_k(x_1 \dots x_k)$ are infinitely differentiable functions decreasing faster than any inverse power as $x_1 \rightarrow \infty$, for which

$$W(R^+g) = \sum_{l, m} \int \dots \int dx_1 \dots dx_{l+m} W_{l+m}(x_1 \dots x_{l+m}) \bar{g}_l(x_1 \dots x_l) g_m(x_{l+1} \dots x_{l+m}) = 0.$$

If a functional consists of a finite number of irreducible ones, its Ω allows a unique reconstruction of all the irreducible components. Several consequences of

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ACC NR: AP5026602

these statements are discussed. Author thanks L. V. Prokhorov for discussions and continuous interest. Orig. art. has: 24 formulas.

SUB CODE: 12, 20/ SUBM DATE: 06Jan65/ ORIG REF: 001/ OTH REF: 003

TS
Card 2/2

KOROLEV, A.I.; BLINOV, S.T.; IUBENETS, I.A.; KOBURNEYEV, I.M.; TURUBINER, A.L.; VASIL'YEV, S.V.; CHERENKO, M.A.; BELOV, I.V.; TELESOV, S.A.; MAZOV, V.F.; MEDVEDEV, V.A.; MAL'KOV, V.G.; BUL'SKIY, M.T.; TRUBETSKOV, K.M.; SHNEYEROV, Ia.A.; SLADKOSHTYEV, V.T.; PALANT, V.I.; KUROCHKIN, B.N.; ZHDANOV, A.M.; BELIKOV, K.N.; SABIYEV, M.P.; GARBUZ, G.A.; PODGORETSKIY, A.A.; AL'FEROV, K.S.; NOVOLODSKIY, P.I.; MOROZOV, A.N.; VASIL'YEV, A.N.; MARAKHOVSKIY, I.S.; MALAKH, A.V.; VYKHOVTSYEV, E.V.; AGAPOV, V.F.; VYCHER, N.A.; PASTUKHOV, A.I.; BORODULIN, A.I.; VAYNSHTEYN, O.Ya.; ZHIGULIN, V.I.; DIKSHTEYN, Ye.I.; KLIMASENKO, I.S.; KOTIN, A.S.; MOLOTKOV, N.A.; SIVERSKIY, M.V.; ZHIDETSKIY, D.P.; MIKHAYLETS, N.S.; SLEPKANEV, P.N.; ZAVODCHIKOV, N.G.; GUDIACHUK, V.A.; NAZAROV, P.M.; SAVOS'KIN, M.Ye.; NIKOLAYEV, A.S.

Reports (brief annotations). Bicl. TSNIICHM no.18/19:36-39 '57.
(MIRA 11:4)

1. Magnitogorskiy metallurgicheskiy kombinat (for Korolev, Belikov, Agapov, Dikshteyn).
2. Kuznetskiy metallurgicheskiy kombinat (for Blinov, Vasil'yev, A.N., Borodulin, Klimasenko).
3. Chelyabinskii metallurgicheskiy zavod (for Iubenets, Vaynshteyn).
4. Zavod im. Dzerzhinskogo (for Koburneyev).
5. Zavod "Zaporozhstal'" (for Turubiner, Mazov, Podgoretskiy, Marakhovskiy, Savos'kin).
6. Makeyevskiy metallurgicheskiy zavod (for Vasil'yev, S.V., Mal'kov, Zhidetskiy, Al'ferov).
7. Stal'projekt (for Chernenko, Zhdanov, Zavodchikov).
8. VNIIT (for Belov).
9. Stalinskii metallurgicheskiy zavod (for Telesov, Malakh).

(Continued on next card)

KOROLEV, A.I.---(continued) Card 2.

10. Nizhne-Tagil'skiy metallurgicheskiy kombinat (for Medvedev, Novolodskiy, Vecher). 11. Zavod "Azovstal'" (for Bul'skiy, Slepkanov). 12. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii (for Trubetskoy). 13. Ukrainskiy institut metallov (for Shneyerov, Sladko-shcheyev, Kotin). 14. Zavod "Krasnyy Oktjabr'" (for Palant). 15. Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskoy teplotekhniki (for Kurochkin). 16. Zavod im. Voroshilova (for Sabiyev). 17. Chelyabinskiy politekhnicheskiy institut (for Morozov). 18. Giprostal' (for Garbuz). 19. Ural'skiy institut chernykh metallov (for Pastukhov). 20. Zavod im. Petrovskogo (for Zhigulin). 21. Ministerstvo chernoy metallurgii USSR (for Molotkov, Siverskiy). 22. Glavspetsstal' Ministerstva chernoy metallurgii SSSR (for Nikolayev).
(Open-hearth process)

137-58-6-11811

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 88 (USSR)

AUTHOR: Vasil'yev, A.N.

TITLE: Deoxidation of Steel by Ferromanganese in the Ladle (Raskisleniye stali ferromargantsem v kovshe)

PERIODICAL: Tr. Nauchno-tehn. o-va chernoy metallurgii, 1957, Vol 18, pp 396-403

ABSTRACT: Data are presented on experimental heats of rimmed grades of steel rolled to all the sections listed in GOST (standard) 3280-55, GOST 500-52, and GOST 535-52 (except for beams of Nr 36 size and above). The heats were run in large open-hearth furnaces at the Kuznetsk metallurgical kombinat with deoxidation of the metal by Fe-Mn in the ladle. When [Si] in the metal <1%, the metal in the mold effervesced normally. The duration of the experimental heats was 4 min longer than the usual (with deoxidation by Fe-Mn in the furnace) in view of the fact that the working period was run less intensively, as the metal has to be at a higher temperature before deoxidation (by approximately 5-10°C) to compensate for heat loss when Fe-Mn is added to the ladle. Deoxidation in the ladle makes it

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137-58-6-11811

Deoxidation of Steel by Ferromanganese in the Ladle

possible to save 2.5 kg in every ton of steel. The quality of the surface of the rolled product and its mechanical properties are not affected by the method of Fe-Mn deoxidation employed.

A.S.

1. Steel--Production 2. Steel--Deoxidation 3. Iron-manganese alloys--Applications
4. Dippers--Applications

Card 2/2

SOV/137-58-9-18573

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 56 (USSR)

AUTHORS: Medzhibozhskiy, M.Ya., Sokolov, I.A., Shestakov, N.A.,
Vasil'yev, A.N.

TITLE: Compressed Air Blowing of Liquid Metal in Heavy-duty Open-hearth Furnaces (Vduvaniye kompressornogo vozdukh v zhidkuyu vannu bol'shegruznykh martenovskikh pechey)

PERIODICAL: Izv. vyssh. uchebn. zavedeniy. Chernaya metallurgiya, 1958,
Nr 2, pp 34-47

ABSTRACT: A report on the results of 40 experimental smeltings carried out in the 390-ton open-hearth furnaces of the KMK (Kuznetsk Metallurgical Kombinat). Compressed air at a pressure of 3.5-5.0 atm gage was introduced into the hearth at a rate of 2500-2800 m³/hr by means of two water-cooled tuyeres installed in the crown of the furnace. The blowing commenced 1-1.5 hrs prior to melting and terminated at the beginning or the midpoint of the pure "boil" period. In the course of the experimental smeltings, the rate of decarbonization became considerably faster, the dephosphorization process more efficient, and the content of FeO in the slag increased by 6% at the end of the

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SOV/137-58-9-18573

Compressed Air Blowing of Liquid Metal in Heavy-duty Open-hearth (cont.)

melting stage. Instead of 1.0-1.5°C/min, as in the case of a standard smelting process, the temperature of the metal increased at a rate of 2.0-2.5°C/min; this made it possible to reduce the consumption of conventional fuel by an average of 7 kg per ton of ingots. In the process the degree of utilization of O₂ contained in the compressed air by the molten metal is increased by a factor of 4-8 owing to the increased supply O₂ from the atmosphere of the furnace. Compressed-air blowing at a pressure of 5.5 atm gage is equivalent in efficiency to blowing with pure O₂. The duration of a 390-ton melting process was reduced by 38 minutes on the average. The amount of dust being evolved during blowing does not exceed 1 g/m³. No noticeable wear was observed in the furnace lining. Overoxidation of metal in the course of the blowing process was absent; at the same time the content of N amounted to only 0.0033%. The finished metal contains H, O, N, and slag inclusions in quantities analogous to those contained in standard metals. Mechanical properties of the steel were not impaired.

V.G.

1. Open hearth furnace--Performance 2. Metals (Liquid)--Processing 3. Compressed air--Applications

Card 2/2

SOKOLOV, I.A., inzh.; VASIL'YEV, A.N., inzh.; NIKULIN, N.G., inzh.

Decoxidation of low-alloy steel entirely in the ladle. Metallurg
(MIRA 11:12)
3 no.12:14-17 D '58.

I.Kuznetskiy metallurgicheskiy kombinat.
(Steel alloys--Metallurgy)

ZARVIN, Ye.Ya., kand. tekhn. nauk; DEMYKIN, K.V., inzh.; VASIL'YEV, A.N.,
inzh.

Sulfur balance in 370-ton and 190-ton converter smelting of low-
manganese and ordinary pig iron. Izv. vys. ucheb. zav.; chern.
met. no.4:23-35 Ap '58. (MIRA 11:6)

1. Sibirskiy metallurgicheskiy institut i Kuznetskiy metallurgi-
cheskiy kombinat.
(Bessemer process) (Sulfur)

SOV/130-58-12-7/21

AUTHORS: Sokolov, I.A., Vasil'yev, A.N. and Nikulin, N.G.,
Engineers

TITLE: Deoxidation of Low Alloy Steel Entirely in the Ladle
(Raskisleniye nizkolegirovannoy stali polnost'yu v kovshe)

PERIODICAL: Metallurg, Nr 12, 1958, pp 14 - 17 (USSR)

ABSTRACT: The authors describe 43 experimental heats of types 09G2 and 09G2D low-alloy steels made to investigate the possibility of carrying out all the deoxidation in the ladle. The deoxidisers in lumps up to 50 mm across were added from bunkers; first silicomanganese (20-25 kg/tonne steel) and ferromanganese (2-2.5 kg/tonne), then ferrotitanium (1.2-1.5 kg/tonne); finally aluminium (0.9-1 kg/tonne) was added manually. The additions were made smoothly and were completed before slagging started. In a few heats some metallic manganese was added. The metal was teemed via a tundish. Samples were taken during melting and pouring. The authors tabulate (Table 1) and discuss average melting conditions, compositions of samples and metal temperatures for the experimental and for 14 ordinary heats. The duration of the former was 8 hr 40 min and of the latter

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SOV/130-58-12-7/21

Deoxidation of Low Alloy Steel Entirely in the Ladle

9 hours 24 min. Mechanical tests on samples taken from rolled products of the experimental and ordinary heats show that the properties are practically the same and superior to standard specifications (Table 2). The authors give comparative figures for consumptions of deoxidizers and the resulting cost changes per tonne of steel (Table 3). They quote a figure of 45.55 roubles conversion cost saving per tonne. But an editorial note points out that most of the saving is due to the substitution of ferro-manganese for metallic manganese, which is not related to the method by which deoxidation is effected, and that the real savings which can be credited to deoxidation in the ladle are the reduction in heat time and silicon and

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Deoxidation of Low Alloy Steel Entirely in the Ladle

manganese losses. The ladle deoxidation method was adopted at the Kuznetskiy metallurgical combine at the end of 1957.

There are 3 tables

ASSOCIATION: Kuznetskiy metallurgicheskiy kombinat (Kuznetsk metallurgical combine)

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78036
30V/130-60-3-5/23

AUTHOR: Vasil'yev, A. N. Bogachev, S. I. (Engineers)

TITLE: Utilization of Titanocontent Waste for Deoxidation of Steel

PERIODICAL: Metallurg, 1960, Nr 3, pp 6-8 (USSR)

ABSTRACT: At the Kuznetsk Combine (Kuznetskiy Combinot) the possibility of utilizing high-titanium wastes (chips and sheet trimmings) instead of ferrotitanium was investigated. The investigation was carried out on 15 melts of steels 18KhGT and 30KhGT (chemical composition not given). Based on experimental work, the following conclusions were made: (1) The substitution of ferrotitanium by industrial waste material does not cause any technological difficulties, and guarantees uniformity of metal in the ladle. (2) High-titanium chips dissolve in the ladle better than ferrotitanium. (3) Better microstructure of rolled metal was obtained in the melts with metal temperature before deoxidation 1,650-1,600° C.

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Utilization of Titanocontent Waste
for Deoxidation of Steel

78036
SOV/130-60-3-5/23

(4) The surface quality and mechanical properties of experimental and regular melts are practically the same. (5) Loss in burning out of titanium in both groups of melts is 64.0%; loss of silicon in experimental melts is 8%, in regular, 6.7%. (6) Utilization of titanium waste saves 21 rubles per ton of metal. (7) The results of mechanical tests of regular and experimental melts are given in Table 2. There are 3 tables.

ASSOCIATION: Kuznetsk Metallurgical Combine (Kuznetskiy metallurgicheskiy combinat)

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Utilization of Titanocontent Waste
for Deoxidation of Steel

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SOV/130-60-3-5/23

Table 2. Results of mechanical tests of regular
and experimental melts.

№	Temp, °C	Time, min								
1	100	not	103	90	9,0	50	8,0			
2	106	102	102	14,0	62,0					
3	106	103	13,2	63,0						
4	150	110	9,0	45,0	6,0					
5	172	151	10,0	48,0	8,1					
6	165	156	11,5	49,5	9,7					
7	170	155	10,5	47,5	8,2					

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VASIL'YEV, A.N.; BOGACHEV, S.I.

Deoxidizing steel by silicon-manganese alloys. Metallurg
5 no.9:13-15 S '60. (MIRA 13:8)

1. Kuznetskiy metallurgicheskiy kombinat.
(Steel--Metallurgy) (Silicon-manganese alloys)

VASIL'YEV, A.N.; BOGACHEV, S.I.

Use of titanium tailings in 18KhGT steel smelting. Biul.
TSIICHM no.9:45-46 '60. (MIRA 15:4)

1. Duznetskiy metallurgicheskiy kombinat.
(Chromium steel--Metallurgy) (Titanium)

S/130/61/000/003/001/008
A006/A001

AUTHORS: Vasil'yev, A.N., Bogachev, S.I.

TITLE: The Use of Titanium Sponge for the Deoxidizing of Steel

PERIODICAL: Metallurg, 1961, No. 3, pp. 14 - 16

TEXT: The use of titanium sponge replacing ferrotitanium when melting 18ХГТ (18KhGT) and 30ХГТ (30KhGT) steel in single-runner open-hearth furnaces has been started at the Kuznetsk Metallurgical Combine. Large-scale research work has preceded the introduction of this new method. The authors present results obtained from experimental heats. Until the moment of final deoxidation of the metal, the experimental heats were conducted according to conventional technological instructions. The metal of conventional heats was deoxidized in the ladle as follows: when filling the ladle with metal to 1/5 of its height the total amount of ferrosilicon is supplied from a stationary bin; then 50-180 mm ferrotitanium lumps are supplied from a trough suspended on a bridge crane. The supply of deoxidizers is completed when filling the ladle with metal 3/4 of its height. Due to the insufficient dissolving of ferrotitanium in the ladle prior to slag formation, the upper metal layers were saturated with Ti, and Mg and Si were reduced from the slag. As a result, the number of ingots rejected, on ac-

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A006/A001

The Use of Titanium Sponge for the Deoxidizing of Steel

count of their chemical composition was about 2.0%. In the experimental heats the order to supplying the admixtures into the ladle remained the same. The difference consisted merely in the fact that instead of ferrotitanium, 410 g/t of aluminum and about 600 kg per heat (3.2 kg/t) titanium sponge were supplied to the ladle. Two kinds of titanium sponge were used: "siftings" which are 10-50 mm lumps of 3.8 g/cm³ specific weight, and "rejects" of up to 100 mm size in the plane, up to 5 mm thick and of 2.6 g/cm³ specific weight. The chemical composition of both types is given below:

	Ti,	Fe	C	Si	Mn, P, S
Rejects:	98.5	1.4	0.05	0.05	traces
Siftings	99.4	0.5	0.05	0.05	traces

Titanium sponge was used for 19 experimental heats of 18KhGT and one heat of 30KhGT steel. A comparison is made with data obtained in 1959 from 11 conventional heats, with ferrotitanium addition to the ladle. Results obtained are given in Tables 1, 2, 3. On the basis of the experiments performed and of the practical use of titanium sponge the following conclusions can be drawn: the replace-

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The Use of Titanium Sponge for the Deoxidizing of Steel

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ment of ferrotitanium by titanium sponge does not present any technological difficulties and assures a uniform composition of the steel. Titanium sponge dissolves in the ladle better than ferrotitanium; as a result, rejects of ingots due to unsatisfactory chemical composition, are eliminated. The quality indices of metal melted using titanium sponge are practically not different from metal obtained with the use of ferrotitanium. The use of titanium sponge yields savings of about 50 kopeks per 1 ton of melted steel. To prevent ignition of titanium sponge, it should be stored and transported in closed metal containers.

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Table 1: a) number of ingot; b) chemical composition, %; c) number of ingot;
d) chemical composition, %

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The Use of Titanium Sponge for the Deoxidizing of Steel

Table 1: Distribution of Elements in Metal Samples of 11 Experimental Heats

Heat	Heat	Heat	Heat	Heat	Xenobacter coercs. %			Mn	Si	Ni
					Heat	Heat	Heat			
7-4562	2	0.920	0.270	0.12	7-4640	2	0.870	0.280	0.11	
	14	0.930	0.270	0.12		15	0.880	0.270	0.11	
	31	0.910	0.250	0.12		31	0.850	0.280	0.11	
	32	0.86	0.240	0.12						
9-4284	2	0.960	0.260	0.11	7-4633	2	0.840	0.230	0.08	
	14	0.970	0.260	0.11		15	0.860	0.230	0.08	
	31	0.910	0.300	0.11		31	0.840	0.220	0.08	
	32	0.91	0.30	0.11						
10-4411	2	0.90	0.270	0.10	7-4623	2	0.84	0.20	0.08	
	13	0.95	0.280	0.10		14	0.850	0.20	0.08	
	31	0.880	0.280	0.10		25	0.820	0.190		
	34	0.	0.	0.		29	0.	0.		
9-4354	2	0.860	0.26	0.10	9-4286	2	0.860	0.24	0.12	
	12	0.850	0.260	0.10		15	0.820	0.24	0.12	
	23	0.860	0.280	0.08		32	0.860	0.24	0.12	
	24	0.880	0.300	0.08						
7-4648	2	0.920	0.300	0.12	10-4348	2	0.900	0.24	0.10	
	14	0.910	0.300	0.12		14	0.880	0.27	0.10	
	22	0.880	0.300	0.12		28	0.880	0.24	0.10	
	23	0.910	0.310	0.12		30	0.880	0.24	0.10	
10-4334	2	0.880	0.280	0.10						
	15	0.880	0.270	0.08						
	24	0.840	0.230	0.10						
	32	0.840	0.230	0.10						

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The Use of Titanium Sponge for the Deoxidizing of Steel

Table 2: Results of Mechanical Tests

a)	b)	c)	d)	e)	f)	g)
Плавки	число плавок	Поверхность, м ²	Предел текучести, кг/мм ²	Относительное удлинение, %	Относительное сужение, %	Ударная вязкость, кг/см ²
По ТУ (h)	—	100	not less Не менее 90	9	50	8
Опытные	19	110,4	108,4	12,5	61,9	12,7
Обычные	11	106,0	103,0	13,2	63,0	14,0

a) heat; b) number of heats; c) ultimate strength σ_u , kg/mm²; d) yield limit σ_y , kg/mm²; e) relative elongation δ , %; f) relative constriction ψ , %; g) toughness a_k , kg/cm²;
h) according to techn. specific;
i) experimental

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The Use of Titanium Sponge for the Deoxidizing of Steel A006/A001

Table 3: Consumption of Deoxidizers; a) Aluminum; b) Ferro-Ti; c) Ti-sponge.

Раскислители	Deoxidizers	СТАЛЬ РАБОЧИЕ ПЛАВКИ Обычные плавки (11 плавок)					СТАЛЬ РАБОЧИЕ ПЛАВКИ Опытные плавки (19 плавок)				
		Suppli- ed to the lad- le, kg	Content in finished steel по ст. 100% титан, %	УГР. %	Suppli- ed to the lad- le, kg	Content in finished steel по ст. 100% титан, %	УГР. %	TI	SI	TI	SI
45%-ная FeSi . .	305	—	0,29	—	9,3	490	—	0,27	—	—	17,0
a) Алюминий . . .	—	—	—	—	—	80	—	—	—	—	—
b) Ферротитан . . .	2000	0,098	—	64,2	—	—	—	—	—	—	—
c) Титановая губка	—	—	—	—	—	620	0,104	—	66,8	—	—
Всего . . . Total	2305	0,098	0,29	64,2	9,3	1190	0,104	0,27	66,8	—	17,0

There are 3 tables.

ASSOCIATION: Kuznetskiy metallurgicheskiy kombinat (Kuznetsk Metallurgical Combine)

Card 6/6

LITVINENKO, D.L.; SHCHASTNYI, P.M.; YAKUSHIN, V.I.; VASIL'YEV, A.N.;
PODYMGIN, I.Ye.; YUDIN, N.S.; YEVSTAF'YEV, Ye.I.; KOBINSKIY, P.S.;
ELIMELAKH, R.Z.; MERSHCHIY, N.P.

Greater use in industry of semikilled steel. Metallurg 8 no.3:10-19
(MIRA 16:3)
Mr '63.
(Steel—Metallurgy)

VASIL'YEV, A.N.; BOGACHEV, S.I.

Rapid pouring of rimmed steel. Metallurg. 8 no.10:16-17 0 '63.
(MIRA 16:12)

1. Kuznetskiy metallurgicheskiy kombinat.

VASIL'YEV, A.N., inzh.; GOROKHOV, N.G., inzh.; YUSHIN, P.V., inzh.

Production of 20KhGNR steel at the Kuznetsk Metallurgical Combine.
Stal' 23 no.12:1085-1086 D '63. (MIRA 17:2)

1. Kuznetskiy metallurgicheskiy kombinat.

MONASTYRSKIY, V.Ya.; BOGACHEV, S.I.; VASIL'YEV, A.N.

Heating of high-grade steel ingots with dolomite waste. Metallurg
10 no.10:17-19 0 '65. (MIRA 18:10)

1. Kuznetskiy metallurgicheskiy kombinat.

TRIFONOV, O.V.; BOGACHEV, S.I.; VASIL'IEV, A.N.

Pouring steel with a 45 millimeter casting nozzle. Metallurg 10
no.3:18-19 Mr '65. (MIR: 18:5)

1. Kuznetskiy metallurgicheskiy kombinat.

TKACHEV, V.V., inzh.; SHOLEMINOV, V.M., inzh.; Prinimali ucheniye:
KONSTANTINOV, V.G.; LEVIN, L.Ya.; GRIGOR'YEVYKH, G.F.;
ZAKHAROV, V.N.; ZHDAKOV, L.A.; PUZANOV, N.N.; SHAKHALOV, V.I.;
VASIL'YEV, A.N.; ZHELEZNAYA, P.T.; TIGARINOV, Ye.A.; LEVKIN,
A.S.; MOKIYEVSKIY, N.M.; SHAKHALOV, V.; SMIRNOV, A.I.

Developing the technology of producing a high-basicity
open-hearth sinter. Stal' 25 no.8:683-686 Ag '65. (MIRA 18:8)

1. Cherepovetskiy metallurgicheskiy zavod (for Tkachev,
Sholeminov).

L 32627-66 EWT(d) IJP(c)

ACC NR: AP6014035

SOURCE CODE: UR/0056/66/050/004/0954/0957

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B

AUTHOR: Vasil'yev, A. N.ORG: Leningrad State University (Leningradskiy gosudarstvenny universitet)TITLE: Symmetry breakdown in the Wightman axiomatic schemeSOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 50, no. 4, 1966,
954-957TOPIC TAGS: quantum electrodynamics, group theory, strong nuclear interaction,
algebra

ABSTRACT: The author analyzes symmetry breakdown within the Wightman axiomatic scheme (A. S. Wightman, Phys. Rev. v. 101, 860, 1956), using the concept of a system of dynamic equations of a theory, introduced by him earlier (ZhETF v. 50, No. 3, 1966). Two possible types of symmetry breakdown are considered. The first corresponds to the case when the kernel of a given representation of the algebra is not sufficiently large (the set of the dynamic equations is incomplete), and the second corresponds to a case when there are two or more irreducible functionals having the same kernel, which is invariant with respect to the given symmetry. The second symmetry breakdown is a consequence of the dynamics itself, and not simply due to the incompleteness of the set of dynamic equations. Examples of reducible functions representing a theory with symmetry breakdown are given for the first kind. The symmetry breakdown of the first kind is quite frequent and to any theory which does not possess a symmetry one

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L 32627-66

ACC NR: AP6014035

can relate a whole class of reducible theories for which this symmetry is broken. The possibility of a breakdown of the second type is not so obvious and in order for such a breakdown to be possible it is necessary that there exist at least two different irreducible theories with the same kernel. It is shown, however, that enlarging the initial algebra reduces the possibility of symmetry breakdown of the second kind, and if the initial algebra chosen is the extension constructed by the author in the earlier paper, then there is no room for symmetry breakdown of the second type. Orig. art. has: 3 formulas.

SUB CODE: 20/ SUBM DATE: 20Sep65/ ORIG REF: 001/ OTH REF: 005

Card 2/2 - 10

L 33282-66 EWT(1)/FSS-2 TT/GW

ACC NR: AR6017229

SOURCE CODE: UR/0058/65/000/012/D023/D023

AUTHORS: Mandel'shtam, S. L.; Vasil'yev, B. N.; Voron'ko, Yu. K.; Tindo, I. P. 64
Shurygin, A. I.; Metisov, Ye. N. BTITLE: Investigations of the short-wave end of the solar spectrum with the aid of
satellites and rockets 12

SOURCE: Ref. zh. Fizika, Abs. 12D177

REF SOURCE: Tr. Komis. po spektroskopii. AN SSSR, t. 3, vyp. 1, 1964, 36-54

TOPIC TAGS: solar spectrum, solar corona, solar radiation, geophysic rocket, scientific satellite

ABSTRACT: The radiation of the sun was investigated experimentally and theoretically in the spectral region below 10 Å. It is established that this radiation has a continuous spectrum and is due to recombination of electrons and "heavy" ions in the solar corona. The measurements of the electron temperature of the radiating regions of the corona in different experiments yielded values between 1.5 and 4×10^6 °K; the flux of radiation at the limit of the earth's atmosphere is $2 - 8 \times 10^{-4}$ erg/cm²-sec. [Translation of abstract]

SUB CODE: 03, 22/

Card 1/1

VASIL'YEV, A.N., mladshiy nauchnyy sotrudnik; Prinimal uchastiye: NOVIKOV, A.K., inzh.

Preliminary evaluation of the economic efficiency of the new automatic UMPA-3L cop winder. Nauch.-issl. trudy TSNIIILV 15:74-84 '61.

Expediency of making weft cops for burlap weaving directly on the loom. Ibid.:84-98 (MIRA 18:4)

L 8811-66 EWT(1) IJP(c) GG
ACC NR: AP5024698

SOURCE CODE: UR/0056/65/049/003/0781/0783

AUTHOR: Vasil'yev, A. N.

35

ORG: Leningrad State University (Leningradskiy gosudarstvennyy universitet)

B

TITLE: One attribute of the generalized free field

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 3, 1965,
781-783

TOPIC TAGS: quantum field theory, function analysis, operator equation, group theory

ABSTRACT: It is shown that a field which satisfies certain differentiability and group-theoretical properties is a generalized free field. The differentiation of the class of free fields is of fundamental interest, since it makes possible identification of theories that manifestly cannot describe real processes. The proof is based on a transformation of a local field, consisting in the transition from a field $\phi(p)$ (the Fourier transform of $\phi(x)$) to a field $\varphi_a(p) = a(p^2)\phi$, where $a(p^2)$ is an infinitely differentiable function of power growth and $\varphi(p)$ is a field operator in the momentum representation. If a is not a polynomial, then the field φ_a is in general non-local. However, if $\phi(p)$ decreases sufficiently rapidly as $|p^2| = |p_0^2 - \vec{p}^2| \rightarrow \infty$, and especially like $\exp(-\mu|p^2|)$ for some $\mu > 0$, then the field φ_a is local for any a and the initial field can only be a generalized free field. Author thanks L. B. Prokhorov for discussions and continuous interest in the work. Orig. art. has: 6 formulas.

SUB CODE: 20/ SUBM DATE: 06Jan65/ ORIG REF: 000/ OTH REF: 003

jw
Card 1/1

L 22126-66 EWT(d)/EWT(l)/T IJP(c)

ACC NR: AP6004927

SOURCE CODE: UR/0056/66/050/001/0112/0116

AUTHOR: Vasil'yev, A. N.23
22ORG: Leningrad State University (Leningradskiy gosudarstvenny universitet) 13TITLE: Description of two-particle scattering by means of a functional of the
Wightman type 21
74SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 50, no. 1, 1966,
112-116

TOPIC TAGS: algebra, particle scattering, functional equation, Hilbert space

ABSTRACT: In view of the fact that the hitherto published papers involving descriptions of states with the aid of the Wightman formalism all correspond to the few examples of states that are known and that correspond to the physically trivial case of noninteracting fields, the author attempts to derive an example of a non-trivial functional, even if it does not satisfy all the requirements imposed on the Wightman functional, but is sufficiently close to mathematical structure. To this end, he considers a subalgebra of an algebra A whose elements are finite sequences of the functions $(g_0; g_1(x); \dots; g_n(x_1 \dots x_n); 0; 0; \dots)$. By definition, this subalgebra $A^{(+)}$ consists of those elements of A for which only the components with an even subscript are different from 0, i.e., $g_0; 0; g_2(x_1 x_2); 0;$

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ACC NR: AP6004927

$g_4(x_1x_2x_3x_4); 0; \dots$). One of the representations of this subalgebra is constructed explicitly. An interesting peculiarity of the constructed representation is that the underlying Hilbert space contains only the vacuum and two-particle asymptotic states, and does not contain states with a higher number of particles. The model is defined by two generalized functions, and the properties of such a functional are analyzed. The conditions for the unitarity of the S-matrix in the case of two-particle scattering are discussed. The author thanks L. V. Prokhorov for useful discussions. Orig. art. has: 17 formulas.

SUB CODE: 20,2/ SUEM DATE: 19Jun65/ OTH REF: 004

Card 2/2 BK

L 22258-66 EWT(d) IJP(c)

ACC NR: AP6010991

SOURCE CODE: UR/0056/66/050/003/0694/0708

AUTHOR: Vasil'yev, A. N.

18

ORG: Leningrad State University (Leningradskiy gosudarstvennyy universitet)

B

TITLE: The possibility of a concept of a dynamic theory in the Wightman axiomatic scheme

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 50, no. 3, 1966, 694-708

TOPIC TAGS: Hilbert space, abstract algebra, isomorphic representation, involution, isomorphism, algebra

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ABSTRACT: The concept of a set of dynamic equations of theory is introduced within the framework of the Wightman axiomatics. A dynamic equation is an arbitrary relation of the type $a(g) = \sum f_1 \dots f_k g_k(x_1 \dots x_k) \phi(x_1) \dots \phi(x_k) = 0$, where $\phi(x)$ is the field operator and g is an element of space for which the Wightman functional W is defined (infinitely differentiable, rapidly decreasing functions from S space are usually taken as test functions for $g_1(x_1 \dots x_2)$). The relation between theories with the same set of

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L 22258-66

ACC NR: AP6010991

dynamic equations is discussed. From this viewpoint the choice of space for which W is defined is of importance; the wider this space the greater the number of dynamic equations that can be written down and hence the greater the information they contain. For a sufficiently broad class of theories (in particular including all local theories) it is demonstrated that W can be satisfactorily defined for a more extensive class of test functions than S . The following statements are proven: the irreducible Wightman functional W considered as a functional for the extended space may be prescribed dynamically (i.e., the respective set of dynamic equations defines it uniquely). However, if W is reducible but can be expanded into a finite number of irreducible functionals, then its set of dynamic equations uniquely defines all irreducible components of the functional. [CS]

SUB CODE: 20,12/ SUBM DATE: 20Sep65/ ORIG REF: 001/ OTH REF: 006/

Card 2/2 . mst

VASIL'YEV, A.N.

Uniqueness of the Whiteman functional. Zhur.eksp.i teor.fiz.
49 no.4:1103-1108 0 '65.

1. Leningradskiy gosudarstvennyy universitet. (MIRA 18:11)

AUTHORS: Vasil'yev, A.P. and Koval'kov, G.A. (Moscow) S/024/60/000/01/023/028
TITLE: Armoured Insulation E194/P355

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Energetika i avtomatika, 1960, Nr 1, pp 160-162 (USSR)

ABSTRACT: In rotating electrical machines, particularly large turbo-alternators, the insulating material is subject to considerable mechanical stress. In such circumstances, armoured insulation offers advantages: the insulating layer is covered on one or both sides with a sheet of strong metal, thick enough to protect the insulation from mechanical damage. The insulation may then be of the minimum thickness required from considerations of electric strength and its thermal conductivity is improved. Moreover, the construction permits the use of new kinds of insulating material such as ceramics, which have a high strength in compression and good thermal conductivity but which could not be used hitherto because of their brittleness. In selecting materials for armoured insulation the coefficient of thermal expansion is important. Sections of armoured insulation with ceramic or semi-ceramic

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Armoured Insulation

S/024/60/000/01/023/028
E194/E355

¹⁵
insulating materials are illustrated schematically in Figure 1. They are : (steel)-(vitreous enamel)-(steel); (aluminium)-(oxide film)-(adhesive)-(oxide film)-(aluminium); (steel)-(grains of Al_2O_3 in varnish K-53)-(steel); and a variant of the latter with a different structure of the insulating layer. The thermal conductivity of these materials was about double that of ordinary laminated insulation and as the insulation thickness may be reduced the advantage is still greater. The authors then discuss a wedgeless construction of turbo-alternator rotor slot insulation. A laboratory model is illustrated schematically in Figure 2. A stress of 1 600 kg/cm² was applied to the insulation hydraulically and it was heated electrically to a temperature above 200 °C and at the same time 580 V were applied. As the wedgeless construction seems practicable only at low excitation voltages, the test voltage appears adequate. The insulation was constructed in accordance with the bottom diagram of Figure 1 and withstood the above test

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Armoured Insulation

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conditions at a temperature of 175 °C without visible damage. The insulating layer was 0.2 mm thick and the steel liners 0.15 mm each. If this armoured insulation is used it is necessary to avoid plastic deformation of parts adjacent to the armoured insulation and there must be no sudden change of mechanical stress near the edge of the insulation. The point is illustrated with reference to Figure 3, in which 1, 2 and 3 represent steel, insulation and copper, respectively. In Figure 3a the design is such that the copper has flowed with risk of damage to the insulation; in Figure 3b the copper is alloyed to increase the mechanical strength but there is still some damage and in Figure 3B the design has been altered to avoid risk of damage to the insulation. It is concluded that the principle of armoured thin-layer insulation may be used to obtain insulation of high mechanical strength and thermal conductivity and affords the possibility of economising insulating material.

Card 3/3 There are 3 figures and 1 English reference.
SUBMITTED: November 14, 1959

VASILYEV, A.P.

124-11-12504

Translation from: *Referativnyy Zhurnal, Mekhanika*, 1957, Nr 11, p. 27 (USSR)AUTHOR: Vasiliyev, A. P.TITLE: To the Problem of the Location of the Flame Front in a Liquid-Propellant Combustion Chamber. (K voprosu o polozhenii fronta plameni v kamere sgoraniya Zh. R. D.)PERIODICAL: V sb.: *Nekotoryye zadachi gidrogazodinamiki* (MVTU, Vol 67, Moscow, Oborongiz, 1955, pp 115-120)

ABSTRACT: An analysis is made of the specific problem of the possibility that the flame front in a liquid-propellant combustion chamber may oscillate between two essentially stable positions, determined by the flow of the mixture in the pre-frontal zone.

It is therein assumed that, up to the section occupied by the flame front, the mixture consists of droplets and vapors of its unreacted components.

Starting from an exponential variation of the droplet radius with time,

$$r = r_0 e^{-kr},$$

Card 1/3 the author has obtained an expression for the axial velocity component of the gases in the pre-frontal zone of the chamber:

124-11-12504

To the problem of the location of the flame front in a liquid-propellant combustion chamber, (continued)

$$w'_x = \frac{848 T}{P_k F} G \left(\frac{1 - e^{-3k_F}}{m_F} + \gamma \frac{1 - e^{-3k_O T}}{m_O} \right)$$

where T and F are the temperature and the cross-sectional area of the chamber at a distance x from its head, G_F is the fuel flow per unit time, m_F and m_O are the molecular weights of the fuel and the oxidizer, k_F and k_O are the characteristic evaporation-rate coefficients of the components, $\gamma = G_O/G_F$ is the oxidizer/fuel flow ratio. In view of the fact that the curve showing the variation of the flame propagation velocity u as a function of the oxidizer excess coefficient α attains a maximum for values of $\alpha \approx 0.7 - 0.85$, the equation $u = w$ is satisfied for two values of α , the magnitude of which, at various x distances, is determined by the evaporation speeds of the components. On that basis the author reaches the conclusion that there may be two essentially stable positions of the flame front, each located in a different portion of the combustion chamber; this, in his opinion, may give rise to an oscillation.

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124-11-12504

To the problem of the location of the flame front in a liquid-propellant combustion chamber (continued)

It is worthy of note that, in reality, when a liquid-propellant chamber functions in a stationary regime, there is no distinct flame front separating a zone of feed mixture and a zone containing the products of combustion. As a consequence of the ejection of jets of fuel through the nozzles into the space between the diffuser cones a suction occurs, bringing about the return of currents of gaseous products of the combustion from the zone of incipient combustion, thereby introducing high degrees of temperature and advecting an amount of heat which then becomes available for the evaporation of the components. Thus the flow pattern in the head portion of the combustion chamber affords an exceedingly complex structure which cannot be reconciled with the proposed schematicism of the flow of the working process.

(A. I. Fedorov)

Card 3/3

VASIL'YEV, A.N.; NOVOGORODSEV, N.P.; OTLIVANOV, S.G.; TERESHIN, G.G.

Use of thermocouples for temperature control of liquid steel in
steel smelting sections of the Kuznetsk Metallurgical Combine.
Zav. lab. 22 no.9:1127-1130 '56. (MLRA 9:12)

1. Kuznetskiy metallurgicheskiy kombinat.
(Thermocouples) (Steel) (Smelting)

VASIL'YEV, A.P.

Pyramid for adjusting micrometers. Izm.tekh. no.5:62 My '61.
(MIRA 14:5)
(Micrometer)

VASIL'YEV, A.P.

Concerning high-speed flax pulling machinery. Trudy MIMESKH 4
no.2:181-197 '59. [†] (MIRA 15:4)
(Flax) (Harvesting machinery)

VASIL'YEV, A.P., kand. tekhn. nauk

Accelerated flax pulling. Mekh. i elek. sots. sel'khoz, 17 no.2:14-19
'59.
(MIRA 12:6)

1. Moskovskiy institut mekhanizatsii i elektrifikatsii sel'skogo
khozyaystva.

(Flax--Harvesting)

S/070/63/008/002/008/017
E021/E120

AUTHORS: Vasil'yev A.P., and Vyatkin A.P.

TITLE: Investigation of the crystallographic orientation and etching of gallium arsenide by the method of optical figures

PERIODICAL: Kristallografiya, v.8, no.2, 1963, 248-254

TEXT: The method described by V.N. Vertonrakhov (Kristallogr. v.6, no.5, 1961, 753) was used in the investigation. The diameter of the parallel pencil of light was 1 - 1.5 mm. The samples investigated were flat parallel plates cut parallel to the main crystallographic planes (100), (110) and (111). The etchants used were of the compositions $HF:30\% H_2O_2:H_2O = 1:1:2$ and $30\% H_2O_2:5\% NaOH = 1:5$. Photographs of the optical figures from the main crystallographic planes of the etched crystal are shown after 1 - 10 minutes etching. Dissolution was anisotropic and with increase in etching time the etch figures became sharper. It was shown that the anisotropic character of dissolution could be used for controlling the orientation of flat plates and also for determining the crystallographic orientation of single crystals.

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Investigation of the crystallographic... S/070/63/008/002/008/017
E021/E120

The optical figures from the main crystallographic planes of gallium arsenide had a different appearance from the figures for germanium and silicon. It was established that only the plane (111) bounded by the atoms of gallium gave optical figures after etching. The method could thus be used to distinguish between (111) and (111) planes. There are 5 figures.

ASSOCIATION: Sibirskiy fiziko-tekhnikheskikh nauchno-issledovatel'skiy institut pri Tomskom gosudarstvennom universitete im. V.V. Kuybysheva
(Siberian Physicotechnical Scientific Research Institute at Tomsk State University imeni V.V. Kuybyshev)

SUBMITTED: June 6, 1962

Card 2/2

VASIL'EV, A. P.

PA 27T20

USSR/Engineering
Concrete, Reinforced
GERMANY/Concrete, Reinforced

May 1947

"Factory Produced Sectional Ferroconcrete Construction," A. P. Vasil'ev, Engr, 5 pp

"Stroitel'naya Promyshlennost'" No 5

Article on the production process and products of a factory in Rudersdorf, Germany, which produces ferroconcrete structural units on a mass scale for industrial and government buildings. Author believes that the organization of production, the products, and the technology of their preparation can be utilized in the plants of the Soviet Union.

BS

27T20

1. VASIL'YEV, A.P., KALATUROV, B.A.
2. USSR (600)
4. Reinforced Concrete - Testing
7. Resistance of reinforced concrete elements with rigid reinforcement to a transverse force at bending. Stroi. prom. 30 no. 4, 1952, Laureat Stalinskoy Premii Kand. Tekhn. Nauk TSNIPS
9. Monthly List of Russian Accessions. Library of Congress, August 1952. UNCLASSIFIED.

L. VASIL'YEV, A.P.: LESNIKOV, V.V. ENG.

2. USSR (600)

4. Reinforced Concrete Construction

7. Spot welding of supporting skeletons used as reinforcements for reinforced concrete construction. Eng. Stroi, prem. 30 no. 21 1952

9. Monthly List of Russian Accessions, Library of Congress, March, 1950. Unclassified.

VASIL'YEV, A.P., kandidat tekhnicheskikh nauk; SIZOV, V.N., kandidat tekhnicheskikh nauk; AROHELIDZE, G.A., inzhener; GOVOZDEV, A.A., professor, doktor tekhnicheskikh nauk; laureat Stalinskoy premii, redaktor; DESOV, A.Ye., professor, doktor tekhnicheskikh nauk, laureat Stalinskoy premii.

[Making precast concrete and reinforced concrete elements in construction yards.] Izgotovlenie sbornykh betonnykh i zhelezobetonnykh konstruktsii na poligonakh. Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture, 1955. 90 p. (Moscow. TSentral'nyi nauchno-issledovatel'skii institut promyshlennyykh sooruzhenii. Nauchnoe soobshchenie, no.17) (MIRA 8:9)
(Precast concrete) (Reinforced concrete)